

Remarks

Reconsideration of the present application, as amended, is respectfully requested.

Of previously pending claims 1-12, all were rejected.

Independent claims 1 and 7 were rejected under 35 USC §103(a) as being obvious over the previously cited Henmi patent, U.S. Patent No. 6,137,603, in view of the Yamane patent, U.S. Patent No. 5,434,691, and newly cited U.S. Patent No. 6,333,804, which issued December 25, 2001 to N. Nishiyama *et al.* The applicants have amended claims 1, 4, 5 and 6 so that claim 1 also has the limitations of claims 2 and 3, claim 4 includes the limitations of claims 1 and 2; claim 5 includes the limitations of claims 1 and 2; and claim 6 includes the limitations of claims 1 and 2. Claims 2 and 3 have been canceled. The applicants have also amended claims 7, 10, 11 and 12 so that claim 7 also has the limitations of claims 8 and 9, claim 10 includes the limitations of claims 7 and 8; claim 11 includes the limitations of claims 7 and 8; and claim 12 includes the limitations of claims 7 and 8. Claims 8 and 9 have been canceled. Therefore, the applicants' arguments are directed toward the rejection of previously dependent claims 3 and 9, 4 and 10, 5, 6, 11 and 12.

In rejecting claims 3 and 6, equivalent to amended claims 1 and 7, the Examiner stated:

Regarding claims 3 and 9, the combination of Henmi and Yamane discloses all the aspects as applied to claims 1 and 7 above, except fails to teach an electronic reshaping circuit is also arranged to clean the signal output from the electronic switch from a supervisory channel. However, Kitamura, from the same field of endeavor, teaches an optical repeater having regeneration circuit (16, fig. 1), which obviously can be used to amplify/retime/reshape the digital signal coming from the supervisory device 40, therefore, it can be interpreted as "clean" the signal output from the electronic switch from a supervisory channel. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the regeneration circuit of Kitamura into the combination of Henmi and Yamane in order to provide additional conditioning for the output signals to achieve a higher signal quality.

With due respect, the Kitamura regeneration circuit which amplifies/retimes/reshapes a digital signal, in the words of the Examiner, is not "arranged to clean the supervisory channel from the signal output from the electronic switch," as called for in amended claims 1 and 7. The applicant points out that claims 1 and 7 have been amended to clarify any possible ambiguity as

to what is being cleaned from what. The language now reads, “the electronic reshaping circuit is also arranged to clean the supervisory channel from the signal output from the electronic switch,” and is supported by page 6 of the specification which states, “The other portion of the electric output signal is provided to a reshaping circuit block 67 in which the signal is reshaped, is cleansed from a supervisory channel and is given a proper power level for the following laser 69.” As clearly illustrated by Fig. 1 of the Kitamura patent, the regeneration circuit 16 does not meet the language of the limitation, but in fact, operates directly in contradiction to it. Col. 1, lines 58-62 explains, “The digital signal with the supervisory signal added thereto is sent to regeneration circuits 16 and 18, which respectively drive laser diodes (LD) 17 and 19 in accordance with the digital signal from the interface circuit 15 (applicant’s underlining).” Claims 1 and 7 are clearly patentably distinguishable over the cited references and should be allowable.

In rejecting claims 4 and 10, equivalent to amended claims 4 and 10, the Examiner stated:

Regarding claims 4 and 10, the output signal from the regeneration circuit inherently has a certain power level, which can be considered as “a predetermined electric power”.

With due respect, this is an unfair reading of the applicant’s claims. The Examiner appears to be confusing the inherency of a power level of a circuit in the sense that all results are deterministic in the engineering or scientific sense. However, that is not what “predetermined” means and claims 4 and 10 should be allowable over the cited references.

In rejecting claims 5 and 11, 6 and 12, the Examiner stated:

Regarding claims 5, 6, 11 and 12, the combination of Henmi and Yamane discloses all the aspects as applied to claims 1 and 7 above, except fails to teach the output terminal of the electronic reshaping circuit connected to the input terminal of the laser, the laser producing a light signal provided to a client layer. However, Kitamura, from the same field of endeavor, teaches the output terminal of the regeneration circuit (16, fig. 1) connected to the input terminal of the laser (LD, fig. 1 and col. 1, lines 58-61), the laser producing a light signal provided to a client layer (fig. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the regeneration circuit 16 with the laser diode 17 of Kitamura having the input connecting to the output of the regeneration circuit into the combination of Henmi and Yamane in order to provide the optical signals for transmission down the line.

As noted in the title of the cited patent, Kitamura *et al.* are concerned with optical

repeaters and Fig. 1 illustrates a conventional optical repeater. Col. 1, lines 23-24. “[O]ptical repeaters are provided in an optical fiber cable at predetermined intervals so that the occurrence of a receipt error due to the length of the optical fiber cable can be prevented.” Col. 1, lines 10-13. Optical repeaters should have no connections to a client layer in the Kitamura systems. The Examiner has not explained why a client needs an optical repeater, such as shown in Fig. 2 of Kitagawa. Hence claims 5 and 11, 6 and 12 are patentable over the cited references and should be allowed.

Therefore, in view of the amendments above and the remarks directed thereto, the applicant respectfully requests that all rejections be withdrawn, that claims 1, 4-7 and 10-12 be allowed and the case be passed to issue. If a telephone conversation would in any way expedite the prosecution of this application, the Examiner is asked to call the undersigned at (408) 868-4088.

Respectfully submitted,

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